

MATH 14-3D2 Spring 2014

Quiz 6

Name: _____

Show all work clearly and in order (on this sheet or an attached sheet) and circle your final answers.

Justify your answers algebraically whenever possible. Work without justification may not receive credit.

You have 25 minutes to take this 10 point quiz.

1. (3 points) Find absolute extrema of the function $\begin{cases} f: [-2, 3] \rightarrow \mathbb{R} \\ f(x) = x^2 - 10 \end{cases}$.

2. (3 points) Find the relative extrema of $\begin{cases} f: [-3, 4] \rightarrow \mathbb{R} \\ f(x) = 2x^3 + 3x^2 - 12x + 1. \end{cases}$

3. (4 points) Where is the function $\begin{cases} f: \mathbb{R} \rightarrow \mathbb{R} \\ f(x) = x^3 - 2x^2 + x \end{cases}$ concave up? concave down? Where are its inflection points?